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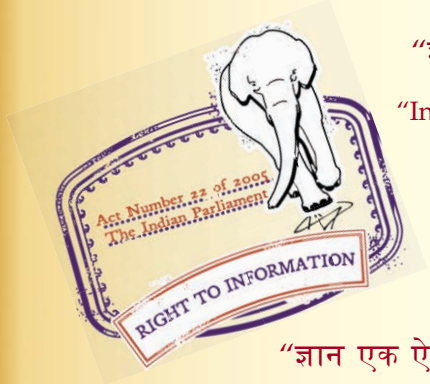
"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 10219 (1982): Purchaser's data sheet for tube nest evaporation plants [MED 17: Chemical Engineering Plants and Related Equipment]



"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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UDC 658·711·6(083·22) : 66 : 049·1/·2

Indian Standard

(Reaffirmed 1999)

PURCHASER'S DATA SHEET FOR TUBE NEST EVAPORATION PLANTS

1. Scope — Covers the technical data to be supplied by a purchaser while placing an enquiry or order for the purchase of tube nest evaporation plant.

2. Purchaser's Data Sheet

Purchaser's Data Sheet for Tube Nest Evaporation Plants

1) General information:
   a) Name of purchaser.....
   b) Project.....
   c) Location.....
   d) Service of unit.....
   e) Whether enquiry is for complete evaporator system including evaporator bodies, ejectors, condensers, pumps, piping, instrumentation, etc.

2) Type of tube nest evaporators:
   a) Fixed tube bundle.....
   b) Removable tube bundle....
   c) Any other.....
   d) Preferred number of effects.....

3) Evaporation capacity.....kg/h

4) Circulation of liquor:
   a) Natural.....
   b) Forced.....
   c) Falling film type.....
   d) Any other.....

5) Heating medium:
   a) Type.....
   b) Pressure.....kPa
   c) Flow quantity maximum available.....kg/h
   d) Temperature.....°C

   If steam:

   a) Whether saturated or super heated (degree of super heat)
   b) Condensate disposal

   If heating medium is not steam, provide following properties of heating medium at inlet and outlet conditions:

   (i) sp gr (ii) Viscosity (iii) Specific heat kcal/kg°C (iv) Thermal conductivity kcal/hm°C

6) Cooling medium:
   a) Temperature.....°C
   b) Pressure.....kPa
   c) Quality.....
   d) Quantity.....kg/h
   e) Fouling factor.....

Adopted 22 July 1982

Gr 2

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NEW DELHI 110002

Chemical Engineering Sectional Committee, EDC 57; Basic Chemical Engineering Standard Subcommittee, EDC 57 : 1
[Ref : Doc : EDC 57 (3172)]

Purchaser's Data Sheet for Tube Nest Evaporation Plants

7) Chemical composition of feed (weight percent)

8) Liquor characteristics:

a) Foaming, if excessive, which antifoaming agents are acceptable in the system
b) Temperature sensitivity.....
c) Scaling.....
d) Composition.....
e) Any other.....

9) Blow down ratio.....

10) Permissible period of stay in evaporator.....

11) Input liquor and product data:

Property	Unit	Input Liquor	End Product
a) Concentration of solid (dissolved/suspended)	g/m^3	.....	.....
b) *p*H values	—	.....	.....
c) Viscosity	cP	.....at.....°C	.....at.....°C
d) Density	kg/m^3	.....	.....
e) Latent heat	K cal/kg	.....	.....
f) Temperature (inlet)	°C	.....	.....
g) Heat conductivity	K cal/mh °C	..... at .....Pa and..... concentration	.....at.....Pa and..... concentration
h) Specific heat	K cal/kg °C		
j) Boiling point	°C	.....at.....Pa and..... concentration	.....at.....Pa and..... concentration
k) Surface tension	N/m	.....	.....
m) Flow volume, and	m^3/h	.....	.....
n) Pressure	kPa	.....	.....

12) Is the liquor or end product inflammable/toxic/corrosive or otherwise dangerous ....

13) Highest temperature to which liquor can be heated without causing unfavourable results .....°C

14) Does crystallization or precipitation take place during the evaporation process .....

15) State and quantity of extraneous material, if any .....

16) Recommended tube diameter, tube length, tube thickness for tube bundles .....

17) Operation:

a) Continuous/batch .....
b) Period of operation .....hours/day
c) By passing of any unit .....

Purchaser's Data Sheet for Tube Nest Evaporation Plants

18) Vapour (if not directly condensed):

a) Use of vapour .....
b) Desired flow quantity .....kg/h
c) Pressure .....kPa
d) Temperature .....°C
e) Permissible salt content .....g/m³

19) Preferred material of construction:

a) Shell .....
b) Tube sheet .....
c) Tube .....
d) Desired provision allowance .....

20) Preferred vacuum system pump/ejector .....

21) Motive steam (for ejectors):

a) Supply pressure .....kPa
b) Supply temperature .....°C
c) Whether motive steam is to be recovered .....

22) Installation:

a) Closed or open space .....
b) Available floor area and height .....
c) Supporting structures required .....Yes/No
d) Whether installation/start of service required .....

23 Electrical Supply:

a) Voltage .....
b) Phase .....
c) Frequency .....Hz

24) Motor requirements:

a) Type of motor .....
b) Type of protection required .....
c) Any other .....

25) Instrument air for pneumatic type instruments:

a) Supply pressure .....kPa
b) Supply temperature .....°C

26) Control and measuring instruments, preferred type

27) Special requirements of auxiliary equipment (emergency water tank, fire fighting equipment, etc) .....

28) Special requirements for testing procedures, if any .....

Purchaser's Data Sheet for Tube Nest Evaporation Plants	
29) Special requirements for packing and transport	....
30) Special requirements for the spare parts	.....
Remarks	
31) Any other requirements	.....

EXPLANATORY NOTE

The information given by a purchaser according to this data sheet will enable a manufacturer or a supplier to assess the exact requirements of the purchaser and to recommend to him the most suitable type of equipment.

International System (SI) units have been used in the standard. The relationship of these units to other units are given below for guidance :

1 Pascal (Pa) = 1 newton/square meter (N/m^2)
= 0·102 kgf/m^2

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